



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,930	03/08/2004	Karl Scheller	ALLEG-041PUS	1800
22494	7590	05/08/2006	EXAMINER	
DALY, CROWLEY, MOFFORD & DURKEE, LLP SUITE 301A 354A TURNPIKE STREET CANTON, MA 02021-2714			WHITTINGTON, KENNETH	
			ART UNIT	PAPER NUMBER
			2862	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/795,930

Applicant(s)

SCHELLER ET AL.

Examiner

Kenneth J. Whittington

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 2-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

Art Unit: 2862

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election without traverse of Group I, claims 1-9, in the reply filed on April 4, 2006 is acknowledged. Accordingly, the Restriction is made final.

6

***Response to Arguments***

Applicant's arguments with respect to the claims filed in the Amendment filed January 19, 2006 have been considered but are moot in view of the new grounds of rejection outlined below.

12

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

18

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

24

Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is noted that the entire

Art Unit: 2862

disclosure of Applicants' invention is to create a tracking signal to match or closely match that of the magnetic field signal using the disclosed circuitry. Nowhere is there any disclosure of bringing the magnetic field signal to the same level as the tracking signal as is recited in this claim. Such  
6 a feature is beyond the scope of and directly contrary to the disclosure as filed. Accordingly, the feature is not enabled to a person having ordinary skill in the art.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which  
12 forms the basis for all obviousness rejections set forth in this Office action:

18 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere*  
Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for  
24 establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

Art Unit: 2862

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6        Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted Prior Art (AAPA) (as outlined in FIGS. 1 and 2 and page 2, line 18 to page 4, line 8 of the present disclosure) in view of Smith et al. (US 5,451,946), hereinafter Smith.

12        Regarding claim 1, AAPA teaches a proximity detector, comprising:

        a magnetic-field-to-voltage transducer for providing a magnetic field signal indicative of an ambient magnetic field (See AAPA FIG. 1, item 14);

18        a peak detector responsive to said magnetic field signal for providing a tracking signal which substantially follows at least a portion of said magnetic field signal (See FIG. 1, note items 20, 24, 28, 36 and 40 and see tracking signal PEAKDAC in FIG. 2), wherein said peak detector comprises a digital to analog converter (DAC) (See FIG. 1, item 28).

24        However, AAPA does not explicitly teach coarse and fine DACs and a summing circuit. Smith discloses an apparatus and method for producing an analog output from a digital input comprising:

Art Unit: 2862

a first DAC providing a first output signal having a first step size (See Smith FIG. 3, item 315 and FIG. 4, item 311, note step size);

a second DAC providing a second output signal having a second step size larger than said first step size (See FIG. 3, item 306 and FIG. 4, item 307, note step size is larger than fine step size); and

a summation circuit for providing a signal output representative of the sum of the first and second output signals (See FIG. 3, item 309).

It would have been obvious at the time the invention was made to modify the AAPA to incorporate the coarse/fine DAC of Smith into the apparatus of AAPA to replace the DAC 28. Such combination providing the feature that the output of the Smith DAC creates the tracking signal (PEAKDAC) of AAPA. One having ordinary skill in the art would have been motivated to do so to provide a DAC for an apparatus that exhibits good excess glitch energy and settling performance and provides good linearity (See Smith col. 1, lines 41-43).

Regarding claim 6, AAPA in view of Smith teaches a POSCOMP comparator for providing a POSCOMP signal which changes state when said magnetic field signal varies from said tracking signal by a predetermined amount, wherein said tracking signal is

Art Unit: 2862

forced towards said magnetic field signal in response to changes in state of said POSCOMP signal (See AAPA page 2, lines 18 to col. 4, line 8 of present disclosure).

Regarding claim 7, AAPA in view of Smith teaches the POSCOMP comparator is responsive to a threshold signal that  
6 differs from said tracking signal by a predetermined amount (See same portion of AAPA).

Regarding claim 8, AAPA in view of Smith teaches the tracking signal being brought to substantially the same level as said magnetic field signal in response to changes in state of said POSCOMP signal (See same portion of AAPA).

12

#### ***Allowable Subject Matter***

Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18 The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the prior art does not teach a too-far-behind signal as recited in the claim which causes control of the tracking signal to include steps of the first size in a first state of the too-far-behind signal and steps of the second

Art Unit: 2862

in the other state, in combination with the other features of the claim.

Claims 3-5 have allowable subject matter for the same reasons therefor based on their dependency.

6

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art disclose varying signal converters.

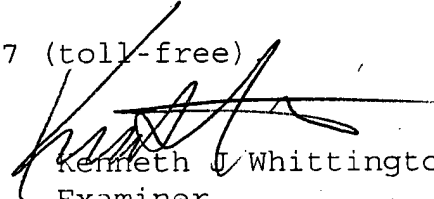
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J. Whittington whose telephone number is (571) 272-2264. The examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

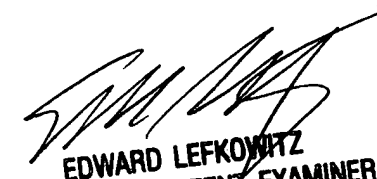


Art Unit: 2862

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kenneth J. Whittington  
Examiner  
Art Unit 2862

12 kjw

  
EDWARD LEFKOWITZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800